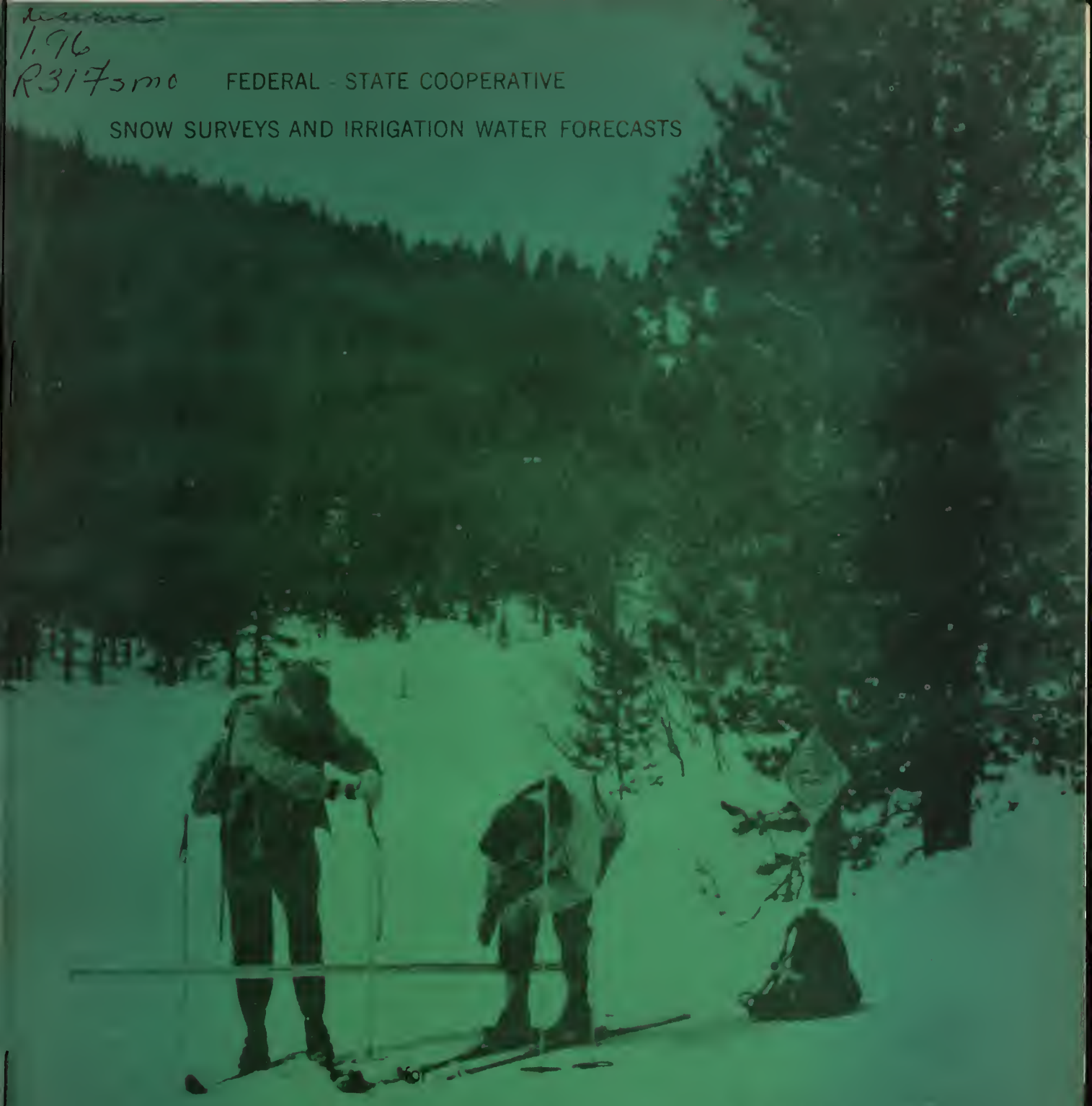
FEDERAL - STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION WATER FORECASTS



Montana and Northern Wyoming

Upper Missouri, Upper Columbia and Yellowstone Rivers

By
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Montana Agricultural Experiment Station

In cooperation with the U. S. Forest Service, U. S. Geological Survey, National Park Service, U. S. Bureau of Reclamation, State Engineers of Montana and Wyoming and other Federal, State and local organizations

As of

MAR. 1, 1953

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY
AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued monthly January through May in the publication WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES.

Weather Bureau forecasts of runoff presented in this bulletin are computed from procedures based on mathematical analysis of the relation between precipitation and runoff.

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Hydrologist in Charge
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FEDERAL--STATE COOPERATIVE SNOW SURVEYS

AND

IRRIGATION WATER FORECASTS

FOR

MONTANA AND NORTHERN WYOMING

Upper Missouri and Upper Columbia River Basins

Report Prepared
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Preliminary Water Outlook
for
Upper Missouri and Upper Columbia

Water supply for irrigation this 1953 season is GOOD on the Upper Missouri Basin in Montana. The snow pack, although starting late, has accumulated close to average conditions - not as large as last season nor the season before, which were well above average; in fact, the past five or six years have been above average.

This season's snow pack averages approximately 82% of last season and about 103% of average for the Upper Missouri Basin in Montana. The Upper Yellowstone River as a whole averages 95% of last year and 103% of average snow pack.

Snow surveys made on the Upper Columbia River in Montana indicate a GOOD water supply for the forthcoming season, and averages approximately 79% of last season and 96% of average snow pack.

The general snow pack conditions throughout both basins are relatively the same with the bulk of the snow at intermediate elevations. At almost all snow courses, the soil under the snow blanket is - UNFROZEN and moist at the surface. In Wyoming, it is reported that the soil is powder dry under the snow. The dry fall conditions will naturally be reflected in soil priming, together with the unfrozen condition of the soil. A normal accumulation of snow during March and a cold spring would retard an early snow melt and would help present conditions materially.

STORAGE IN RESERVOIRS OF MONTANA -March 1, 1953

MISSOURI RIVER BASIN - MONTANA

RESERVOIR	Location on or diversion from	Usable Capacity	Reservoir Volumes in 1,000's a.f.				
			1953	1952	1951	1950	10-year average 1943 - 1952
Lima Reservoir	Beaverhead	84.00	30.88	35.64	47.92	33.36	40.34
Ruby Reservoir	Ruby River	38.85					
Willow Creek Reser.	Willow Creek	17.76					
Hebgen Lake	Madison River	345.00	179.30	264.40	230.80	206.80	235.82
Ennis Lake	Madison River	41.00	34.39	35.06	35.24	38.66	35.60
Middle Creek Reser.	Hyalite Creek						
Lake Sewell	Missouri River	37.80	18.35	18.87	19.33	32.13	30.31
Hauser Lake	Missouri River	62.50	57.31	46.29	57.21	48.52	51.47
Lake Helena	Missouri River	10.45	8.64	5.18	8.64	5.83	11.81
Holter Lake	Missouri River	81.92	58.67	94.74	65.09	49.75	56.11
Gibson Reservoir	N.Fk. Sun River	105.00	53.43	66.35	81.47	40.59	64.53
Willow Creek Res.	N.Fk. Sun River	32.30	20.12	23.96	23.82	2.97	14.55
Pishkun Reservoir	N.Fk. Sun River	32.00	17.74	23.33	18.91	18.91	18.52
Four Horns Lake	Badger Creek	20.00					
Swift Reservoir	Birch Creek	30.00					
Lake Francis	Dupuyer & Birch Cr.	112.00					
Ackley Lake	Judith River	5.82					
Durand Reservoir	N.Fk. Musselshell	7.01					
Martinsdale "	S.Fk. Musselshell	23.10					
Deadman Basin "	Musselshell River	52.50					
Fort Peck Reservoir	Missouri River	19,000.00	12,570.00	11,690.00	12,430.00	11,490.00	10,458.00
Fresno Reservoir	Milk River	127.20	76.83	90.32	65.88	0	51.11
Nelson Reservoir	Milk River	66.80	30.28	38.46	15.67	4.78	28.20
Mystic Lake	W.Rosebud Creek	20.80	6.77	8.17	8.70	8.63	9.32
Cooney Reservoir	Red Lodge Creek	27.50		8.56	8.40	12.37	9.57
Tongue River Res.	Tongue River	73.90	14.47	18.30	8.42	6.55	9.89
Sherburne Lake	Swiftcurrent Cr.	66.10					
YELLOWSTONE RIVER BASIN - WYOMING							
Buffalo Bill Res.	Shoshone River	456.60	151.2	237.0	295.6	190.6	297.4
Boysen Reservoir	Wind River	819.80	602.8	122.0	-	-	-
Pilot Butte Reservoir	Wind River	30.10	12.4	9.3	8.4	12.3	12.7
Bull Lake Reservoir	Wind River (Bull Creek)	155.00	60.8	66.6	89.5	7.8	62.3

STORAGE IN RESERVOIRS OF MONTANA - March 1, 1953

COLUMBIA RIVER BASIN

RESERVOIR	Location on or diversion from	Usable Capacity	Reservoir Volumes in 1,000's a.f.				
			1953	1952	1951	1950	10-year average 1943 - 1952
Georgetown Lake	Flint Creek	31.00	22.89	23.36	22.97	18.52	23.92
E.Fk. Creek Res.	E.Fk. Rock Creek	16.04	No Record				
Nevada Creek Res.	Nevada Creek	12.60	No Record				
W.Fk. Bitterroot Res.	W.Fk. Bitterroot	31.70	No Record				
Como Lake	Rock Creek	34.80	No Record				
Hungry Horse Reservoir	So.Fk.Flathead	3,500.00	706.50	67.76	-	-	-
Flathead Lake	Flathead River	1,791.00	828.10	730.10	902.70	654.00	736.18
Little Bitterroot	*Little Bitterroot	36.10	29.40	36.12	34.79	27.14	18.47
Dry Fork Reservoir	*Dry Fork Creek	6.70	4.11	4.13	4.43	3.60	2.53
Mission Valley Res.	**Flathead Irr.Proj.	98.60	33.59	34.57	49.77	28.49	36.17
Lower Jocko Lake	Jocko Creek	7.6	Sno-bound		-	-	-

* Sum of two reservoirs on Little Bitterroot
* Sum of two reservoirs on Dry Fork Creek
** Sum of (8) eight reservoirs on Project

PRECIPITATION DATA FOR February, 1953
MONTANA

Station	Elev-ation	1952 Current Precipitation Oct.	Nov.	Dec.	1953 Jan.	Feb.	February Dept. from Normal	Accumulated Precipitation 1952-53	Normal	Departure
WEST OF DIVIDE										
Fortine	3000	.05	.28	.87	2.96	0.71	- .41	4.87	6.84	-1.97
Butte (Airport)	5533	.06	.75	.24	.73	1.03	+ .59	2.81	2.49	+0.32
Phillipsburg	5280	T	1.07	.28	1.27	0.94	+ .17	3.56	4.05	-0.49
Hamilton	3529	.11	.64	.27	1.60	0.35	- .40	2.61	3.97	-1.35
West Glacier	3154	.08	.86	2.43	7.07	3.24	+1.29	13.49	13.45	+0.04
Summit (Marias)	5213	.75	1.63	3.12	14.00	4.50	+1.75	24.00	14.26	+9.74
Ovando 1 SW	4101	.13	.65	1.16		1.40	+0.05		7.45	
Trout Creek	2185	.26	.37	3.42	13.14	3.29	+0.44	20.48	16.72	+3.76
Thompson Falls	2435	.13	.38	1.03	7.30	1.96	+0.57	10.80	9.64	+1.16
Average (9)		.17	.72	1.42	6.87	1.93	+0.44	10.20	8.76	+1.44
CENTRAL DIVISION										
Babb	4300	.41	.96	.08	2.24	1.53	+0.71	5.79	4.87	+0.92
Havre	2488	.01	.42	.12	.26	0.58	+0.08	1.39	3.12	-1.73
Great Falls (Airport)	3664	.16	1.36	.08	.55	1.46	+0.89	3.61	3.37	+0.24
Helena (Airport)	3893	.35	1.05	.28	.51	1.02	+0.63	3.21	2.48	+0.73
Lewistown (Airport)	4132	.37	.65	.08	.44	0.79	+0.02	2.33	2.27	+0.06
Livingston	4485	.18	.52	.18	.50	0.77	+0.23	2.15	3.65	-1.50
Wisdom	6058	.13	.35	.43	1.46	1.19	+0.66	4.22	3.75	+0.47
West Yellowstone	6669	.13	.68	2.23	2.20	2.05	-0.41	7.27	10.50	-3.23
Mystic Lake	6558	.19	1.48	.47	1.60	2.04	+0.96	5.78	6.68	-0.90
Average (9)		.17	.83	.44	1.08	1.38	+0.53	3.97	4.52	-0.55
EASTERN DIVISION										
Malta	2255	.01	.18	.26	.50	0.52	+0.15	1.47	2.44	-0.97
Fort Peck	2180	T	.04	.11	.21	0.67	+0.40	1.03	2.15	-1.12
Medicine Lake	1962	.11	.10	.08	.70	0.07	-0.25	1.06	1.99	-0.93
Circle	2428	.03	.17	T	.11	0.25	-0.36	0.56	3.45	-2.90
Billings #2	3139	.47	.32	.15	.36	0.49	+0.07	1.79	3.60	-1.81
Miles City	2392	.01	.61	.11	.70	0.48	-0.01	1.91	3.25	-1.34
Glendive	2076	.02	.58	.05	.17	0.36	-0.07	1.18	2.75	-1.57
Broadus	3026	.04	T	.06	.85	0.53	+0.12	1.48	3.04	-1.56
Average (8)		.08	.25	.10	.45	.42	0.00	1.31	2.84	-1.53

PRECIPITATION DATA FOR March 1, 1953
NORTHERN WYOMING

Station	Elevation	1952 Current Precipitation Oct.	Nov.	Dec.	1953 Jan.	Feb.	February Dept. from Normal	Accumulated Precipitation 1952-53	Normal	Departure
BIG HORN RIVER BASIN										
Cody	4984	.03	.21	.02	.14	.97	+0.66	1.37	2.16	-0.79
Lovell	3825	.00	.19	.11	.12	.18	-0.09	.60	1.88	-1.28
Worland	4061	.00	.16	.08	.28	.40	+0.15	.92	1.93	-1.01
Sunshine 4 SW	6930	.36	1.94	.18	.54	-	-	-	4.06	-
Thermopolis	4336	.02	.30	.06	.80	.72	+0.34	1.90	2.95	-1.05
Riverton	4954	.16	.14	.06	.56	.42	+0.19	1.34	2.24	-0.90
Dubois	6917	.03	.39	.41	.42	.13	-0.29	1.38	2.47	-1.09
Average (7)		.08	.47	.13	.26	.47	+0.12	1.25	2.53	-1.28
TONGUE RIVER BASIN										
Sheridan	4021	.22	.27	.50	1.14	1.53	+0.83	3.66	3.89	-0.23
POWDER RIVER BASIN										
Arvada	3680	.19	.19	.65	.69	.53	+0.20	2.25	2.61	-0.36
Metz Ranch	5280	.02	.04	.23	.40	.91	+0.48	1.60	2.63	-1.03
Gillette	4542	.18	.70	.86½	.62	.94	+0.45	3.30	3.43	-0.13
Nine Mile Creek	5000	.10	.40	.27	1.13	.94	+0.64	2.84	2.50	+0.34
Mid West	4850	.10	1.02	.12	.74	2.78	+2.28	4.76	3.31	+1.45
Average (5)		.12	.47	.43	.61	1.22	+0.84	2.95	2.90	+0.05

MONTANA SNOW SURVEYS March 1, 1953

MISSOURI BASIN

Drainage Basin and Snow Course **	No.	Elev.	Date of Survey March	Snow Depth (In.) 1953	Water Content (Inches) March 1	March 1 Past Records				Average Data March 1		Years
					1953	1952	1951	1950	1949	Avg.	% Avg.	
JEFFERSON RIVER												
(Rock-Beaverhead)												
Lakeview Ridge	11E3	7400	3/2	42	9.9	13.4	7.3	9.8	9.2	9.2	107	6
Lakeview Canyon	11E4	6930	3/2	47	11.2	14.6	9.6	14.7	12.5	11.3	99	6
Limekiln	12E2	6950	2/11	10	1.8	2.4	0.8	1.0	2.6	1.6	124	6
White Pine Ridge	12E1	8850	2/11	30	5.8	6.6	3.0	5.0	6.0	5.2	112	6
*Camp Creek	12E3	6800	3/3	40	11.5	18.9	6.0	11.9	10.5	8.7	129	18
(Horse Prairie)												
Bloody Dick	13D10	7600	2/15	40	12.0	11.0	13.2	8.5	13.9	10.9	110	6
Gold Stone	13D9	8100	2/15	49	15.4	13.0	17.8	10.4	15.6	13.6	113	6
Lemhi Pass	13E1	7400	2/13	24	6.1	11.0	9.4	5.4	7.9	8.2	76	6
Terrell Creek	13D12	6650	2/12	21	5.6	4.6	6.6	3.0	4.8	4.5	125	6
Trail Creek	13E2	7090	2/13	24	6.4	8.1	8.4	4.3	7.0	7.0	92	6
Selway Junction	13D11	6500	2/12	31	8.4	8.2	9.8	5.4	8.8	7.4	114	6
(Big Hole)												
Big Hole Pass	13D3	7440	2/16	50	14.6	17.6	19.0	12.2	20.9	16.0	91	6
Big Hole Pass (Below)	13D4	6900	2/16	46	12.9	13.6	18.0	11.5	17.9	13.6	95	6
East Boundary	13D5	6700	2/16	27	7.3	7.9	8.1	7.6	9.8	7.6	96	6
Jahnke Creek	13D8	7340	2/15	38	11.4	10.4	12.4	7.7	13.6	10.3	111	6
Miner Forks	13D6	7300	2/14	38	12.3	10.8	13.4	8.2	14.0	10.8	115	6
Miner Lake	13D7	6720	2/14	26	6.9	7.6	8.1	5.8	9.4	7.4	93	9
*Moose Creek	13D16	6200	2/27	59	19.0	-	-	14.6	21.2	14.2	134	14
(Wise River)												
Anderson Meadow	13D14	7000	2/19	35	8.4	8.3	8.4	6.8	8.4	7.8	108	6
Elk Horn	13D15	8450	2/28	35	9.0	9.5	10.4	7.1	12.2	7.8	115	19
Wise River	13D13	6300	2/19	24	5.7	6.0	5.4	4.2	5.7	5.2	110	6

*Adjacent Basin

MONTANA SNOW SURVEYS March 1, 1953

MISSOURI BASIN

Drainage Basin and Snow Course	No.	Elev.	Date of Survey March	Snow Depth (In.) 1953	Water Content (Inches) March 1 1953	March 1 Past Records 1953	1952	1951	1950	Average Data March 1 Avg.	% Avg.	Years
JEFFERSON RIVER (Cont'd.)												
(Ruby River)												
Cottonwood	11E2	5900	3/2	32	8.2	11.4	6.0	8.6	8.2	8.0	103	6
Cottonwood (Upper)	11E1	8400	3/2	34	8.6	13.0	5.9	8.9	9.2	8.6	100	6
Flashlight	12D3	6950	2/27	25	6.4	4.4	4.2	3.2	5.0	4.1	156	9
Tobacco Root	12D2	6900	3/1	33	9.6	11.2	8.1	5.0	11.0	8.9	108	6
Vigilante	11D1	6125										
MADISON RIVER												
Hebgen	11E5	6550	2/28	35	9.3	18.5	9.1	9.6	14.0	11.0	85	20
West Yellowstone	11E7	6700	2/28	34	10.0	16.5	11.8	11.7	14.4	10.3	97	20
21-Mile	11E6	7150	2/28	44	14.7	25.3	14.2	17.1	20.5	14.2	103	20
Norris Basin	10E2	7500	2/10	30	6.3	-	-	9.3	8.7	8.1	78	13
*Big Springs	11E9	6500	2/25	60	18.9	31.0	18.8	20.4	26.4	18.5	102	18
*Island Park	11E10	3600	2/26	50	15.1	26.4	12.9	17.3	21.8	14.7	103	18
*Valley View	11E8	6500	2/26	46	12.9	23.8	10.3	15.3	17.3	13.6	95	9
GALLATIN RIVER												
Devil's Slide	10D4	8100	2/28	52	15.6	20.5	14.8	12.9	18.1	15.3	102	19
Hood Meadow	10D3	6600	2/28	25	6.4	10.3	6.6	4.3	8.4	6.6	97	19
New World	10D1	6700	2/22	36	7.8	10.4	7.2	5.3	11.2	8.6	91	12
21-Mile	11E6	7150	2/28	44	14.7	25.3	14.2	17.1	20.5	14.2	103	20

*Adjacent Basin

MONTANA SNOW SURVEYS - March 1, 1953

MISSOURI BASIN

Drainage Basin and Snow Course **	No.	Elev.	Date of Survey March	Snow Depth (In.) 1953	Water Content (Inches) March 1953	March 1 Past Records 1952	1951	1950	1949	Average Data March 1 Avg.	% Avg.	Years
MISSOURI RIVER MAIN STEM												
Chessman Reservoir	12C5	6200	2/26	16	4.2	5.7	3.1	3.4	7.1	4.4	96	18
Crystal Lake	9C1	6100	3/1	45	8.8	14.4	7.5	5.3	15.1	10.3	85	13
Grasshopper	10C2	7000	2/27	14	3.1	7.4	3.0	3.8	7.3	4.2	74	16
Kings Hill	10C1	7950	3/3	40	9.7	14.1	9.9	12.0	15.1	10.4	93	20
Picnic Grounds	13C6	6500	3/2	21	6.0	6.2	5.0	2.5	6.3	4.4	137	9
Pipestone Pass	12D1	7200	3/2	30	4.9	4.9	5.3	1.8	6.8	4.2	117	16
Stemple Pass	12C1	6900	3/3	39	8.9	12.0	9.1	8.2	12.1	8.3	106	20
Tenmile, Lower	12C2	6250	2/27	27	6.4	7.2	6.6	5.4	8.1	5.7	112	19
Tenmile, Middle	12C3	6800	2/27	37	9.5	10.1	9.7	8.4	11.2	8.3	115	20
Tenmile, Upper	12C4	8000	2/27	42	12.1	12.9	12.9	10.6	13.2	10.7	113	19
(Teton River)												
Fright Creek	12A1	6000	3/7	62	20.7	14.0	18.6	18.2	15.3	16.5	126	6
Waldron Creek	12B2	5600	3/6	25	7.2	5.9	8.7	9.6	6.8	7.1	102	6
West Fork	12B1	6000	3/6	53	18.8	11.4	19.6	16.8	16.6	15.5	121	6
(Sun River)												
Benchmark	12B8	5500	3/5	25	7.0	10.1	10.0	10.5	9.0	8.9	79	6
Cabin Creek	12B6	5400	2/28	29	6.1	6.8	7.8	7.2	6.2	6.8	90	5
5-Bull	12B9	5600	3/5	21	5.1	6.5	7.7	7.8	6.9	7.0	73	6
Gates Park	12B5	5300	3/1	38	8.1	10.5	11.5	10.8	9.8	10.1	80	5
Goat Mountain	12B7	7000	3/3	39	9.5	11.2	11.9	13.2	11.2	8.7	109	20
Wrong Ridge	12B3	6800	3/3	60	18.5	19.3	21.0	26.0	20.9	21.1	88	5
Wrong Creek	12B4	5700	3/3	45	12.6	14.3	16.4	17.6	14.4	15.1	88	5
(Marias River)												
Marias Pass	12B5	5250	2/27	48	15.2	18.6	20.2	24.3	20.5	15.0	102	20
(Milk River)												
Rocky Boy	9A1	5200	3/1	19	3.9	6.6	2.9	3.5	4.4	4.7	83	13
(Musselshell)												
Grasshopper	10C2	7000	2/27	14	3.1	7.4	3.0	3.8	7.3	4.2	74	16

WYOMING SNOW SURVEYS March 1, 1953

MISSOURI BASIN

Drainage Basin and Snow Course **	No.	Elev.	Date of Survey March	Snow Depth (In.) 1953	Water Content (Inches) March 1 1953	Past Records 1952	1951	1950	1949	Average Data March 1 Avg.	%Avg.	Years
UPPER YELLOWSTONE												
Camp Senia	9D1	7890										
Canyon	10E3	7750	3/2	49	13.9	16.2	14.0	14.1	13.4	13.6	102	8
Cooke City	10D7	7400	3/2	33	8.5	9.3	7.7	5.8	9.3	6.8	125	17
Crevice Mt.	10D5	8400	3/1	35	7.9	11.7	7.1	7.5	11.4	8.3	95	15
Independence	10D6	8000										
Lake Camp	10E4	7850	3/2									
Lupine	10E1	7300	3/2	31	8.7	13.7	7.1	9.2	13.3	8.5	103	15
*Lewis Lake Divide	10E9	7000	2/26	110	38.0	45.8	42.2	45.4	47.3	**39.7	93	**10
*Astor Creek	10E8	7700	2/26	85	30.7	34.5	31.9	31.8	30.7	**27.3	112	**10
(Shields River)												
Porcupine	10C3	9200	3/7	31	7.8	8.8	3.5	8.0	5.2	4.6	170	16
LOWER YELLOWSTONE (Wind River - above Div.Dam.)												
Brooks Lake #3	10F2	9200	2/26	62	22.4	25.1	29.6	27.2	24.9	20.7	107	17
Burroughs Creek	9F6	8800	2/28	45	15.2	10.5	23.0	16.0	13.5	15.5	98	5
Du Noir	9F2	8750	2/25	26	7.4	6.6	10.5	11.6	9.4	9.1	81	13
Geyser Creek	9F3	8500	2/25	25	7.2	6.8	11.3	10.1	8.4	8.8	86	5
Little Warm	9F4	9500	2/25	46	14.8	15.0	24.3	21.4	16.2	18.3	81	5
Sheridan	9F1	7500	2/26	28	8.2	7.3	11.6	7.6	10.0	6.6	124	17
T-Cross Ranch	9F5	8000	2/28	26	7.5	4.9	11.2	7.0	7.9	6.4	117	13
*Togwotee Pass	10F1	9600	2/27	69	24.4	25.9	32.4	-	-	27.8	88	4

* Adjacent Basin

** Last 10 years, '44-'53

WYOMING SNOW SURVEYS - March 1, 1953

MISSOURI BASIN

Drainage Basin and Snow Course **	No.	Elev.	Date of Survey March	Snow Depth (in)	Water Content (Inches) March 1,1953	March 1 Past Records 1952	1951	1950	1949	Average Data March 1 Avg.	%Avg.	Years
LOWER YELLOWSTONE (Cont'd.)												
Dinwoodie	9F10	10000	2/24	38	11.8	12.2	17.5	14.5	10.6	13.3	89	5
Dry Creek	9F9	9500	2/24	24	6.9	5.9	8.6	9.0	5.9	7.3	94	5
Hobbs Park	9G2	10000	3/2	42	13.9	19.7	16.4	23.7	19.5	18.6	75	5
Mosquito Park	9G3	9500	3/2	28	7.0	7.9	5.8	9.8	10.0	7.3	96	10
St. Lawrence	9F11	9000	3/3	22	6.0	8.1	4.5	7.8	8.7	6.2	97	10
Trout Creek	9G1	8400	3/2	28	6.8	6.6	2.9	4.5	9.1	6.0	113	5
*Black Rock	10F3	8600	2/27	54	18.1	19.8	25.8	-	-	21.5	84	4
*Yellow Jacket	10F5	6775										
POPO AGIE RIVER												
Blue Ridge	8G2	9500	3/1	35	10.2	14.5	10.4	15.6	16.4	9.9	103	14
Grannier Meadows	8G4	9000	3/1	37	11.1	16.6	13.5	17.4	16.3	11.5	97	17
Sawmill Glade	8G1	8500	3/1	29	6.5	8.0	4.2	8.1	10.2	6.2	105	14
South Pass	8G3	9000	3/1	39	12.3	23.1	14.6	24.4	18.3	14.4	85	14
BIG HORN RIVER (Wyoming)												
Beavers Mill	9F8	8000	2/26	22	7.5	5.8	8.1	7.7	6.9	7.2	104	5
Owl Creek	8F1	8700	2/27	15	2.3	5.5	5.5	5.8	6.0	5.0	46	5
Timber Creek	9E2	9000	3/1	20	4.5	2.5	5.8	4.1	7.5	4.9	92	5
Wood River	9E7	8000	3/2	20	3.6	2.7	-	-	-	-	-	2
Tensleep R.S.	7E3	8200										
Ranger Creek	7E1	8800										

*Adjacent Basin

WYOMING SNOW SURVEYS March 1, 1953

MISSOURI BASIN

Drainage Basin and Snow Course **	No.	Elev.	Date of Survey March	Snow Depth (In.) 1953	Water Content (Inches) March 1 1953	March 1 Past Records 1952	1951	1950	1949	Average Data March 1 Avg.	%Avg.	Years
SHOSHONE RIVER												
East Entrance	10E6	7000	3/3	38	10.9	13.0	5.8	9.6	14.4	10.7	102	5
Sylvan Pass	10E5	7100	3/3	46	13.1	14.5	15.0	14.5	15.7	12.4	106	11
TONGUE RIVER												
Burgess Junction	7E4	7900	3/3	36	11.8	10.3	11.2	-	-	11.0	-	3
Big Goose	7E2	7700	3/3	19	4.2	4.6	2.2	-	-	3.7	-	3
Dome Lake	7E5	9000	3/3	28	6.6	5.6	4.4	-	-	5.5	-	4
POWDER RIVER												
North Powder	7E8	8500	3/3	25	6.0	-	-	-	-	-	-	1
Soldier Park	7E6	8700	3/3	17	3.3	3.6	4.1	-	-	3.7	-	3
CHEYENNE RIVER (South Dakota)												
Upper Spearfish	1 S.D.	6500										
Upper Castle												
Deerfield												

MONTANA SNOW SURVEYS - March 1, 1953

COLUMBIA BASIN

Drainage Basin and Snow Course **	No.	Elev.	Date of Survey March	Snow Depth (In.) 1953	Water Content (Inches) March 1 1953	March 1 Past Records 1952	1951	1950	1949	Average Data March 1 Avg.	% Avg.	Years
KOOTENAI												
Brush Creek	14A4	5000	2/26	39	10.8	11.9	11.0	14.0	17.0	12.7	85	7
Fernie	Canada	3500	2/27	28	8.0	9.5	10.3	10.2	9.3	7.7	104	15
New Fernie	Canada	4100	2/26	46	13.8	13.9	14.3	-	-	14.0	-	3
Fernie Ridge	Canada	5600	2/26	70	18.2	22.1	-	-	-	-	-	2
Ferguson	Canada	3000										
Kimberley	Canada	3800	3/1	28	7.7	9.0	10.4	9.2	7.2	6.6	117	13
Marble Canyon	Canada	5000	2/28	50	14.7	13.6	22.6	14.9	12.0	14.7	100	7
Nelson Creek	Canada	3050	2/27	50	17.4	18.1	16.9	13.3	20.2	13.5	129	14
Red Mt. Montana	15A1	6000	2/26	55	17.6	16.7	19.9	20.2	18.7	15.8	111	17
Sinclair Pass	Canada	4500	2/28	18	4.5	5.6	9.3	6.0	3.7	8.9	51	8
Smith Creek	16A1	4800										
Sullivan Mine	Canada	5100	3/2	43	13.2	16.1	15.9	15.6	12.7	13.2	100	8
Upper Elk River	Canada	4400	2/28	25	6.8	6.4	10.3	9.6	8.0	8.2	83	6
BITTERROOT												
Gibbons Pass	13D2	7100	2/27	76	24.4	25.6	23.8	25.2	26.2	19.3	126	20
*Moose Creek	13D16	6200	2/27	59	19.0	-	-	14.6	21.2	14.2	134	14
*Powell Pasture #2	15C3	3700	2/21	40	12.3	-	-	-	-	-	-	1
*Packers Meadow #2	14C2	5700	2/22	90	30.0	-	-	-	-	-	-	1

*Adjacent Basin

MONTANA SNOW SURVEYS March 1, 1953

COLUMBIA BASIN

Drainage Basin and Snow Course **	No.	Elev.	Date of Survey March	Snow Depth (In.) 1953	Water Content (Inches) March 1 1953	March 1 Past Records 1952	1951	1950	1949	Average Data March 1 Avg.	% Avg.	Years
UPPER CLARK FORK												
Coyote Hill	13B11	4200	3/2	39	11.4	13.7	-	-	-	-	-	2
Chessman Res.	12C5	6200	2/26	16	4.2	5.7	3.1	3.4	7.1	4.4	96	18
Intergaard	13C4	6450	3/2	30	7.6	8.4	8.1	5.9	10.6	6.1	125	18
Lubrecht Forest	13C8	5400										
North Fork Jocko	13B7	6350	3/1	110	37.0	37.4	40.0	43.0	37.4	36.0	103	13
Picnic Grounds	13C6	6500	3/2	21	6.0	6.2	5.0	2.5	6.3	4.4	137	9
Pipestone Pass	12D1	7200	3/2	30	4.9	4.9	5.3	1.8	6.8	4.2	117	16
Rainy Lake	13B6	4200	3/2	44	13.3	14.5	4.3	13.6	14.3	11.3	118	7
Southern Cross	13C5	6500	3/2	20	5.6	9.1	5.5	2.6	6.4	4.6	122	18
Stemple Pass	13C1	6900	3/3	39	8.9	12.0	9.1	8.2	12.1	8.3	106	20
Storm Lake #2	12C7	7780	3/3	48	12.8	-	-	-	-	-		1
Stuart Mill	13C6	6500	3/2	22	6.4	7.4	6.2	5.5	8.9	5.1	125	18
Tenmile, Lower	12C2	6250	2/27	27	6.4	7.2	6.6	5.4	8.1	5.7	112	19
Tenmile, Middle	12C3	6800	2/27	37	9.5	10.1	9.7	8.4	11.2	8.3	115	20
Tenmile, Upper	12C4	8000	2/27	42	12.1	12.9	12.9	10.6	13.2	10.7	113	19
*Lookout	15B2	5250										

*Adjacent Basin

MONTANA SNOW SURVEYS - March 1, 1953

COLUMBIA BASIN

Drainage Basin and Snow Course	No.	Elev.	Date of Survey March	Snow Depth (In.) 1953	Water Content (Inches) March 1 1953	March 1 Past Records 1952	1951	1950	1949	Average Data March 1 Avg.	%Avg.	Years
FLATHEAD RIVER												
Basin Creek	13B14	5000	2/25	22	5.9	10.7	9.5	-	-	8.7	-	3
Big Creek	13B3	6750	3/3	110	40.0	40.4	37.6	38.7	35.0	35.7	112	13
Brush Creek	14A4	5000	2/26	39	10.8	11.9	11.0	14.0	17.0	12.7	85	7
Cattle Queen	13A1	4700	2/26	94	29.4	32.3	31.2	35.1	31.1	30.2	97	9
Desert Mountain	13A2	5600	2/25	43	12.3	16.1	15.4	16.8	-	12.8	96	10
Hell Roaring Div.	14A3	5700	2/25	81	26.2	28.6	26.7	-	-	29.4	89	4
Holbrook	14B13	4530	2/25	27	7.1	11.1	9.0	-	-	9.1	-	3
Kishenehn	14A2	4300	2/27	28	7.6	7.6	8.3	8.8	7.9	8.1	94	8
Limestone Pass	13B8	7600	3/1	91	30.0	31.1	40.8	48.8	40.5	37.7	80	6
Logan Cree k	14A5	4300	2/26	26	6.4	8.1	7.8	9.1	10.4	8.4	76	7
Marias Pass	13A5	5250	2/27	48	15.2	18.6	20.2	24.3	20.5	15.0	102	20
North Fork Jocko	13B7	6330	3/1	110	37.0	37.4	40.0	45.0	37.4	36.0	103	13
Quintonken	13A13	3800	2/23	40	10.8	17.8	12.9	-	-	13.8	-	3
Rainy Lake	13B6	4300	3/2	44	13.3	14.5	4.3	13.6	14.3	11.3	118	7
Spotted Bear Mt.	13B2	7000	2/25	38	11.1	15.6	12.5	17.5	19.3	16.1	68	6
Trout Lake	13A12	3600	2/24	46	13.2	17.3	23.7	20.7	14.4	17.9	74	5
Twin Creeks	13B11	3580	2/25	30	9.0	12.7	10.7	-	-	10.8	-	3

Federal - State - Private

COOPERATIVE SNOW SURVEYS

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Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"